

CLAIMS:

1. A device for recording digital information signals in addressable locations on a removable rewritable disc like recording medium, the medium comprising a user area for recording user data represented by the digital information signals, a spare area outside the user area comprising replacement areas for defect management, a table area outside the user area and outside the spare area for recording a defect table comprising a list of addresses of the replacement areas and defect areas in the user area, the device comprising
- 5 recording means for recording the digital information signals on the medium;
reading means for reading recorded digital information signals recorded on the medium; and
- 10 control means for controlling recording the digital information signals, for defining on the medium a first file system partition inside the user area for recording first file system directory and file entries pointing to the user data, the first file system partition beginning at a first location, and for defining on the medium a second file system partition for recording second file system directory and file entries pointing to the user data, the
- 15 second file system partition substantially overlapping with the user area and beginning at a second location, characterized in that
- the control means are adapted to define both partitions such that the first location is the same as the second location, to define the second file system partition having an outside part outside the first file system partition and to record the second file system
- 20 directory entries in the outside part.
2. A device as claimed in claim 1, characterized in that the control means are adapted to define the outside part inside the user area.
- 25 3. A device as claimed in claim 1, characterized in that the control means are adapted to define the outside part outside the user area.

4. A device as claimed in claim 3, characterized in that the control means are adapted to define the outside part inside the spare area and to mark an overlap part of the spare area overlapping with the outside part as unusable in the defect table.
- 5 5. A device as claimed in claim 4, characterized in that the control means are adapted to search the defect table for a replacement area address of a replacement area in the overlap part comprising recorded user data, to localize the replacement area according to the replacement area address, to search the defect table for a free replacement area address of a free replacement area outside the overlap part without the user data, to localize the free replacement area according to the free replacement area address, to read the recorded user data from the replacement area, to record the user data read from the replacement area in the free replacement area and to mark the replacement area as unusable in the defect table.
- 10
6. A device as claimed in any of claims 1 to 5, characterized in that the control means are adapted to define the second file partition comprising the spare area.
- 15
7. A device as claimed in any of claims 1 to 5, the medium comprising an additional spare area outside the spare area and the user area comprising additional replacement areas, the defect table comprising addresses of the additional replacement areas, characterized in that the control means are adapted to mark the additional spare area as unusable in the defect table.
- 20
8. A device as claimed in claim 7, characterized in that the control means are adapted to search the defect table for an additional replacement area address of an additional replacement area comprising recorded user data, to localize the additional replacement area according to the additional replacement area address, to search the defect table for a free replacement area address of a free replacement area out of the replacement areas without the user data, to localize the free replacement area according to the free replacement area address, to read the recorded user data from the additional replacement area, to record the user data read from the additional replacement area in the free replacement area and to mark the additional replacement area as unusable in the defect table.
- 25
- 30
9. A method of recording digital information signals in addressable locations on a removable rewritable disc like recording medium, the medium comprising a user area for

recording user data represented by the digital information signals, a spare area outside the user area comprising replacement areas for defect management, a table area outside the user area and the spare area for recording a defect table comprising addresses of the replacement areas and defect areas in the user area, the method comprising

- 5 - defining on the medium a first file system partition inside the user area for recording first file system directory and file entries pointing to the user data, the first file system partition beginning at a first location; and
- defining on the medium a second file system partition for recording second file system directory and file entries pointing to the user data, the second file system partition substantially overlapping with the user area and beginning at a second location,

the method characterized by

- defining both partitions such that the first location is the same as the second location;
- defining the second file system partition having an outside part outside the first file system partition; and
- 15 - recording the second file system directory entries in the outside part.

10. A method as claimed in claim 9, characterized by defining the outside part inside the user area.

20

11. A method as claimed in claim 9, characterized by defining the outside part outside the user area.

12. A method as claimed in claim 11, characterized by

- 25 - defining the outside part inside the spare area; and
- marking an overlap part of the spare area overlapping with the outside part as unusable in the defect table.

13. A method as claimed in claim 12, characterized by

- 30 - searching the defect table for a replacement area address of a replacement area in the overlap part comprising recorded user data;
- localizing the replacement area according to the replacement area address;
- searching the defect table for a free replacement area address of a free replacement area outside the overlap part without the user data;

- localizing the free replacement area according to the free replacement area address;
- reading the recorded user data from the replacement area;
- recording the user data read from the replacement area in the free replacement area;
- indicating in the defect table that the free replacement area comprises the user data;
- 5 and
- marking the replacement area as unusable in the defect table.

14. A method as claimed in any of claims 9 to 12, characterized in that the second
file system partition comprises the spare area.

10

15. A method as claimed in any of claims 9 to 12, the medium comprising an
additional spare area outside the spare area and the user area comprising additional
replacement areas, the defect table comprising addresses of the additional replacement areas,
characterized by defining the additional spare area as unusable in the defect table.

15

16. A method as claimed in claim 15, characterized by

- searching the defect table for an additional replacement area address of an additional
replacement area comprising recorded user data;
- localizing the additional replacement area according to the additional replacement
20 area address;
- searching the defect table for a free replacement area address of a free replacement
area out of the replacement areas without the user data;
- localizing the free replacement area according to the free replacement area address;
- reading the recorded user data from the additional replacement area;
- 25 - recording the user data read from the additional replacement area in the free
replacement area;
- indicating in the defect table that the free replacement area comprises the user data;
and
- marking the additional replacement area as unusable in the defect table.

30

17. A computer data system comprising a computer connected to a device for
recording digital information signals in addressable locations on a removable rewritable disc
like recording medium, the digital information signals representing user data, first file system
data and second file system data, each file system data comprising a corresponding set of file

entries, the file entries comprising address references pointing to the user data according to a predefined format and defined relative to a reference point, the device comprising

input means connected to the computer for receiving the digital information signals;

5 recording means for recording the digital information signals on the medium;
reading means for reading recorded digital information signals recorded on the medium;

output means for outputting the read digital information signals to the computer; and

10 control means for controlling recording the digital information signals, characterized in that

the computer is adapted to control the control means of the device to perform the method according to any of claims 9 – 16.

15 18. A computer program product for recording digital information signals in addressable locations on a removable rewritable disc like recording medium, which program is operative to cause a processor to perform the method according to any of claims 9 – 16.